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PERSONNEL PRACTICES AND THE
CONCEPTS OF PROFESSIONAL EMPLOYEES

A Thesis
Submitted to the Faculty
of
Purdue University

by

Vincent P. O'Rourke

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Requirements for the Degree
of
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in
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Thesis
0589

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TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES	iv
LIST OF FIGURES	v
ABSTRACT	vi
INTRODUCTION	1
The Area To Be Studied	1
Why a Questionnaire	2
Population To Be Solicited	3
DESIGN AND EXECUTION OF THE QUESTIONNAIRE	5
Design	5
Distribution of Questionnaire	6
RESULTS AND DISCUSSION	7
General Response to the Survey	7
Analysis of Company Personnel-Practices	7
General Comments	7
The Responses	10
Analysis of Employee Survey Responses	20
General Comments	20
Coding and Tabulating	20
Statistical Controls	21
Vital Statistics of the Sample	22
The Responses	22
Write-In Comments	41
SUMMARY OF RESULTS AND CONCLUSIONS	42
Limitations	42
Conclusions and Summary	42
BIBLIOGRAPHY	45
APPENDIX A	47
APPENDIX B	55
APPENDIX C	66

LIST OF TABLES

PageGeneral

1. Population Data	4
2. Participation Data	8

Company Personnel Practices

3. Participant Statistics	9
4. Responses to Questions 5 and 6 thru 11	12
5. Responses to Questions 13 thru 21	14
6. Responses to Questions 22 thru 24	15
7. Responses to Question 26	17
8. Responses to Question 27	18
9. Responses to Questions 28 and 29	19

Employee Survey

10. Responses to Question 15	29
11. Responses to Question 25	32
12. Percent Response to Question 25	33
13. Responses to Question 26	34
14. Percent Response to Question 26	35

LIST OF FIGURES

PageCompany Personnel Practices

1. 1954 Resignation Rates 11

Employee Survey

2. Vital Statistics of Sample 23
3. Responses to Question 6 24
4. Responses to Question 8 26
5. Responses to Question 10 27
6. Integrated Analysis of Question 17 30
7. Responses to Question 32 37
8. Responses to Question 34 38
9. Responses to Question 39 40

ABSTRACT

O'Rourke, Vincent P. M.S. in Industrial Engineering, Purdue University, June 1955. Personnel Practices and the Concepts of Professional Employees. Major professor: R. E. Palyeat.

Non-supervisory professional employees have recently expressed considerable discontent with existing management practices. In addition, it is declared that a manpower shortage of such personnel exists now, and will increase in the next decade.

One remedy for scarcity is more efficient use, and it is recognized that human efficiency is seriously affected by the individual's attitude toward his work situation.

It was felt that the attitudes of non-supervisory professionals have been virtually ignored, and this study hoped to determine management's specific personnel-practices toward these professionals, the reaction of the professionals toward these practices and related working conditions, and any effects of unionization of professionals.

To obtain the necessary data, separate company and employee questionnaires were prepared. Thirteen companies agreed to participate in the Company Survey while nine of them agreed to participate in the Employee Survey as well.

The Company Survey revealed essentially uniform personnel practices toward non-supervisory professional employees. Almost five hundred professionals participated in the Employee Survey, and their responses were analyzed in the light of type of work, years with

company, and number of co-workers in the same room. Lack of positive identification for a portion of the responses made a union-non-union analysis impractical. These responses indicated considerable dissatisfaction with management's delegation of responsibility and authority, indifferent supervisors, lack of training, and poorly designed or crowded working areas. Many write-in comments voiced strong disapproval of management and its policies.

Though not as extensive as originally planned, the study revealed that in the group surveyed, the professionals hold many attitudes which can, and should be, altered by management. It is felt that the existence of these attitudes represents a loss in productivity.

INTRODUCTION

The Area To Be Studied

The past decade has witnessed considerable unrest among non-supervisory professional employees¹, as well as considerable concern over apparent manpower shortages of such personnel now and in the immediate future.

More effective utilization of professionals is offered as one of the remedies of such manpower shortages². One of the recognized means of increasing an individual's contribution to a group effort is to instill and develop within the individual favorable attitudes toward the group--or company--and toward his role in that group effort³.

The many attitude surveys conducted with non-professional production personnel are testimony to the widespread acceptance of the importance of worker-attitudes. However, relatively little effort has been directed toward obtaining the attitudes of non-supervisory professional employees toward their company's personnel practices and toward their work situations⁴. This prompted the consideration of a study of specific personnel practices administered by various companies in industry, as well as a study of the reactions of non-supervisory professional employees toward these practices and related facets of their jobs. It was also felt that, in view of the considerable literary effort concerning the unionization of professional employees^{5,6}, some benefit might be derived by comparing the personnel practices and professionals' attitudes, in the light of whether or not the professional employees currently have an NLRB-certified collective bargaining

representative.

The following objectives of this study were then formulated:

1. To obtain information on specific personnel-practices toward non-supervisory professional employees in industry.
2. To obtain the reactions of these employees to such practices and related working conditions.
3. To determine if unionization of professionals influences these practices, or the reactions toward them or related working conditions.

Why a Questionnaire

Since the information to be considered was not available for study, it was recognized that it would have to be obtained through interviews or questionnaires. Due consideration was given to the inherent advantages of the personal interview. However, it was felt that the time consumed by such a technique would so greatly reduce the size of the sample that the study would be ineffective. Consequently, the distribution of written questionnaires, to be completed and mailed by the individuals, in the case of the Employee Survey, and by the participating companies, in the case of the personnel-practice form, was selected as the technique for obtaining the desired information. It was recognized that any questionnaire using voluntary participation would be biased by the lack of response from those companies and those individuals that did not wish to participate. However, no reasonable solution to this defect could be found.

Population To Be Solicited

Since one of the objectives of this study was to detect any differences in response due to the existence of an NLRB-certified collective bargaining representative for the professional employees, the companies in which it was known that such a representative existed served as a base or reference group for the survey. This represented a relatively small group, and virtually all of these companies were selected. These companies were divided into four categories determined by their principal products. For each category, companies (of comparable size) in which the professional employees were not members of a certified collective bargaining unit were randomly selected from Poor's Directory of Corporations. The breakdown of product, number of employees, and estimated number of non-supervisory professional employees for types of companies solicited appears in Table 1.

In addition, a small number of questionnaires were to be sent directly to certain professional unions, for distribution in areas not otherwise covered by the survey.

Table 1
Population Data

Type Industry	Number of Companies Solicited	Total Number of Employees	Estimated Number of N-SPE*
(15) Aircraft			
Unionized Professionals	7	150,000	14,000
Non-Unionized Professionals	8	120,000	11,000
(23) Electro-Instrument			
Unionized Professionals	12**	55,000	7,000
Non-Unionized Professionals	11	50,000	6,000
(9) Chemical-Utilities			
Unionized Professionals	4	30,000	1,500
Non-Unionized Professionals	5	22,000	1,000
(16) Mechanical-Miscellaneous			
Unionized Professionals	7***	50,000	2,000
Non-Unionized Professionals	9	60,000	2,000
(63) Totals			
Unionized Professionals	30	285,000	24,500
Non-Unionized Professionals	33	252,000	20,000
Total	63	537,000	44,500

*Non-Supervisory Professional Employees

**Includes 3 divisions of a large corporation

***Includes 1 division of this large corporation

DESIGN AND EXECUTION OF THE QUESTIONNAIRES

Design

It was decided to prepare two questionnaires. The first was to be completed by participating companies, to obtain information on specific personnel-practices toward non-supervisory professional employees as well as to obtain descriptive "vital statistics." The second questionnaire was to be an Employee Survey form which would be distributed by the participating companies to their non-supervisory professional employees to record anonymously their reactions to specific personnel-practices and related factors in their work situations. These employees mailed the forms directly to Purdue University.

The questionnaires were developed concurrently, giving considerable attention to those areas in which professionals had voiced discontent, noted in the foregoing references, the monthly publications of the Engineers and Scientists of America and the Council of Western Electric Technical Employees, and related writings^{7,8}.

Recognizing that the questionnaires could not be tailored for each specific industry or professional specialty, some sacrifices were made to present the questions in a general enough form to apply to all types of participating companies and individuals.

The final form of the questionnaires represents the product of considerable critical appraisal and recommendations by Professor R. E. Balyeat, by the personnel manager and the head of industrial engineering of the local branch of the Aluminum Company of America, and by Dr. J. A. Hawkins, Dean of the Schools of Engineering of Purdue University.

The two questionnaires appear in Appendix A.

Distribution of Questionnaires

A copy of each questionnaire, and a return postcard for indicating the desire to participate or not, were enclosed with a letter, explaining the purpose and expected value of the study, mailed to the sixty-odd selected companies. Upon receipt of the postcard indicating willingness to participate, a suitable number of Employee Survey forms would be forwarded to the company for distribution.

Although preparing for this method consumed much more time than anticipated, it was felt that since the company was being supplied with the exact questionnaires there would be little likelihood of a company agreeing to participate and then reversing its stand when the Employee Survey forms arrived. This "positive-participation" was considered desirable.

When copies of the Employee Survey were forwarded for distribution, the companies were reminded that only a random distribution of the questionnaires to their employees would provide valid results. Though more rigid control over the distribution was desirable, no means of obtaining it were reasonably available.

RESULTS AND DISCUSSION

General Response to the Survey

Although seemingly adequate precautions were taken to provide for the relatively low percent of participation characteristic of questionnaire surveys, even the most conservative predictions of individuals experienced in this field did not approach the low participation experienced by this survey. As shown in Table 2, fifty percent of the companies solicited did not respond at all, even though response was made convenient and simple by an enclosed postcard. Approximately twenty-five percent of those responding agreed to participate in both phases while an additional thirteen percent desired to participate only in the company personnel-practices phase of the study.

This lack of participation placed certain obvious restrictions on the analysis and interpretation of the results.

Analysis of Company Personnel-Practices

General Comments

The relatively low participation considerably diminished the planned extensiveness of this phase. Consequently, great caution must be exercised in interpreting these data, and in applying them to the general population.

A tabulation, including type of industry, and number of employees, of the companies participating in this portion of the study appears in Table 3.

Table 2
Participation Data

Type Industry	Number Agreeing to Participate in Both Surveys	Number Agreeing to Participate in Company Survey Only	Number Failing to Answer
(15) Aircraft			
(7) Unionized Professionals	0	2	3
(8) Non-Unionized Professionals	1	1	3
(23) Electro-Instrument			
(12) Unionized Professionals	2	0	5
(11) Non-Unionized Professionals	2	1	9
(9) Chemical Utilities			
(4) Unionized Professionals	1	0	2
(5) Non-Unionized Professionals	1	0	2
(16) Mechanical Miscellaneous			
(7) Unionized Professionals	0	0	0
(9) Non-Unionized Professionals	0	0	7
63	7	4	31
A Federal Ordnance Plant**	1		
A State Highway Department**	1		
	9	4	31

**Not originally solicited.

Table 3
COMPANY PERSONNEL PRACTICES
Participant Statistics

Company	Type Industry	Number of Employees	Number of N-SPE*
1	Aircraft	13,000	1700
2	Electro-Instrument	6,000	50
3	Electro-Instrument	115,000	8000
4	Electro-Instrument	15,000	1900
5	Electro-Instrument	8,000	350
6	Utilities	1,000	50
7	Utilities	10,000	--
8	State Highway Department	100	50
9	(Federal) Ordnance Plant	3,000	200
10	Aircraft	21,000	1400
11	Aircraft	26,000	2000
12	Aircraft	16,000	2100
13	Electro-Instrument	3,300	200
	Totals	237,400	17900

*Non-Supervisory Professional Employees.

To Be Completed By Participating Companies

- NOTE: 1. IF A SPECIFIC QUESTION DOES NOT APPLY TO YOUR SITUATION, OR IS INCONVENIENT TO ANSWER, OMIT IT BUT KINDLY COMPLETE THE REMAINING QUESTIONS AND RETURN THE FORM.
2. UNLESS EXPLICITLY STATED OTHERWISE, ALL QUESTIONS CONCERN NON-SUPERVISORY PROFESSIONAL PERSONNEL (i. e. engineers, scientists, and others possessing at least a bachelor's degree in a technical field).

1. Approximate total number of employees (all classifications) Dec. 31, 1954 _____
2. Approximate number of non-supervisory professional employees Dec. 31, 1954 _____
3. Resignation rate for entire company; 1953: _____ per _____ employees
1954: _____ " _____ "
4. Resignation rate for non-supervisory professional employees;
1953: _____ per _____ employees
1954: _____ " _____ "
5. What is the average base starting rate you pay graduates with (technical) bachelor's degrees but without compensable experience? (include any Cost of Living allowance) _____ per month.
6. What is the basic work week for non-supervisory professional employees?
in days _____ in hours _____
7. What is your paid-vacation policy for non-supervisory professional employees?

Years With Company:	0-1	1-2	2-5	5-10	10-15	15 & over
No. of Weeks	:	:	:	:	:	:
8. How many paid-holidays do these employees receive each year? _____ days
9. Do you have a professional development program within your company which provides these non-supervisory professional employees with pertinent information concerning technical developments within their specialties? YES _____ NO _____
Comment: _____
10. a. Do you participate with a university in a study program which enables these employees to obtain advanced degrees? YES _____ NO _____
b. If YES, does your company pay or refund any tuition costs? YES _____ NO _____
Comment: _____
11. What is the approximate number of non-supervisory professional employees who report to one supervisor? _____ Minimum _____ Average _____ Maximum _____
12. For non-supervisory professional employees to be most efficient, how many, in general, should work in the same room? (approximate) optimum number _____
" maximum " _____
13. Are daily times when non-supervisory professional employees report at and depart from the plant formally recorded? YES _____ NO _____
14. a. Are coffee breaks for these employees customary? YES _____ NO _____
b. If YES, are they allowed: _____ once/day _____ for 10 minutes _____ unrestricted
_____ twice/day _____ " 20 " _____

100

100

100

100

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100

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100

15. Are your non-supervisory professional employees' jobs covered by formal job evaluation plans? YES___ NO___
16. Are there established max/min salary ranges for each classification? YES___ NO___
17. Are reviews of these job evaluations scheduled for at least every:
 ___ 6 months ___ 18 months
 ___ 12 " ___ when necessary
18. Are these non-supervisory professional employees covered by a formal individual merit or performance rating system? YES___ NO___
19. Are reviews of these ratings scheduled for at least every:
 ___ 6 months ___ 18 months
 ___ 12 " ___ when necessary
20. How do you think your non-supervisory professional employees feel about your job evaluation and merit rating systems?
 ___ very satisfied ___ satisfied ___ dissatisfied
21. In your company, are most jobs and production workers covered by:
 a. formal job evaluations YES___ NO___
 b. formal merit ratings YES___ NO___

Comments for 15 thru 21: _____

22. How are your exempt non-supervisory professional employees compensated for overtime? Financial___ Basis___
 Time off ___ "___
 Supper Money Only ___ "___
 No Compensation ___ "___
 Other Means ___ "___

Comment: _____

23. Are your exempt non-supervisory professional employees eligible to participate in any: a. BONUS PLAN___ PROFIT SHARING___ OTHER___
 b. Manner of Compensation___
 c. Approximate average supplemental income from these plans received by these employees in 1954:_____

Comment: _____

24. Compared with your non-professional employees, how much personal freedom on the job do your non-supervisory professional employees enjoy?
 ___ considerably more ___ the same ___ somewhat less

25. What provisions do you have for sick leave pay for non-supervisory professional employees?

Tenure _____

Length of leave (with pay) _____

Rate of pay _____

Comment _____

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Comment: _____

- Comment: _____

- Comment: _____
- Concerning your non-supervisory professional employees:

- Comment: _____
7. ADDITIONAL COMMENTS: _____

ANY ADDITIONAL COMMENTS: _____

ADDRESS : _____

Prof R. E. Balyeat
118 Hecavilion Hall
Purdue University
Lafayette, Indiana

The Responses

Questions 3 and 4. The 1954 resignation rates for the participating companies are depicted in Figure 1. Observing the data as presented, the aircraft industry would seem to have a greater resignation rate. The participants' resignation rate for professionals ranged from 3.7 to 19.0 with a 7.7 median rate. It is felt that this will normally represent a serious loss in productivity.

Question 5. The average starting salaries appear in Table 4. There is essentially no difference between companies with the exception of the lower rate paid by companies 2 and 6. The latter is located in a mountain state, and its salaries (obtained in the Employee Survey) were also lower than the average. However, the professionals were relatively not dissatisfied with their pay, indicating a possibly lower cost of living in that section of the country.

Questions 6 and 7. The responses were so uniform (5 days, 40 hours; 2 weeks' vacation after 1 year, that further tabulation would be superfluous.

Question 8. The number of paid holidays appears in Table 4, and the variations range from 6 to 10, although the majority responded either 6, 7, or 8.

Questions 9 and 10. The responses concerning professional development and university degree programs appears in Table 4. However, since these responses carried various qualifying remarks, it is felt that these questions would have had to be more explicit, offering highly structured alternatives, if direct comparisons were to be made.

Question 11. The responses appear in Table 4. The number of employees reporting to one supervisor varies directly with the size of

Table 4

COMPANY PERSONNEL PRACTICES

Responses to Questions 5 and 8 thru 11

Company	Questions							
	5	8	9	10		11		
				a	b	Min.	Ave.	Max.
1	\$375.	6	Y	Y	Y	1	8	20
2	335.	8	Y	Y	Y	1	3	7
3	370.	7	Y	Y	Y	2	12	25
4	380.	10	Y	-	-	4	10	20
5	350.	6	Y	Y	Y	-	-	-
6	330.	7	N	N	-	1	2	4
7	Not available							
8	360	10	Y	Y	N	2	8	18
9	375.	8	Y	N	-	3	5	10
10	375.	8	Y	Y	Y	6	24	40
11	381.	6	Y	Y	Y	-	10	-
12	380.	6	N	Y	Y	5	15	25
13	375.	7	Y	N	-	3	10	39

the company.

Question 11. A spontaneous answer to this question was hoped for, but apparently most of the respondents cogitated before replying, and as a result, most of the replies stated that it would depend upon the nature and location of the work involved. Consequently, no attempt will be made to present the qualitative answers that were given.

Question 12. The responses appear in Table 5. This question revealed that one-third of the participating companies used some means to formally record the time of reporting to and departing from work of non-supervisory professional employees. The significance of this response rests with the argument offered by many such employees, that these time-accounting techniques reinforce their conviction that management does not consider them as professionals.

Question 14. The responses appear in Table 5. Roughly one half of the companies state that coffee breaks are not customary for these employees. However, a number of these qualified their answers, so that absolute conclusions cannot be drawn.

Questions 15 thru 21. The responses to these questions appear in Table 5. Obviously there is considerable uniformity in personnel practices concerning job evaluation and merit rating systems. Perhaps the most significant fact in this group of responses is that seventy five percent of the companies provided for a review of job evaluations only "when necessary." The ramifications of such a policy are obvious.

Questions 22 thru 24. The responses appear in Table 6. Concerning financial payment for overtime, these plans invariably included a provision for only straight time after the monthly earnings

Table 5a

COMPANY PERSONNEL PRACTICES

Questions 13 thru 21

(See Page 14 for Responses)

-
13. Are daily times when non-supervisory professional employees report at and depart from the plant formally recorded? YES___ NO___
14. a. Are coffee breaks for these employees customary? YES___ NO___
b. If YES, are they allowed: ___once/day___for 10 minutes___unrestricted
 ___twice/day___for 20 minutes___
15. Are your non-supervisory professional employees' jobs covered by formal job evaluation plans? YES___ NO___
16. Are there established max/min salary ranges for each classification? YES___ NO___
17. Are reviews of these job evaluations scheduled for at least every:
 ___6 months ___18 months
 ___12 months ___when necessary
18. Are these non-supervisory professional employees covered by a formal individual merit or performance rating system? YES___ NO___
19. Are reviews of these ratings scheduled for at least every:
 ___6 months ___18 months
 ___12 months ___when necessary
20. How do you think your non-supervisory professional employees feel about your job evaluation and merit rating systems?
 ___very satisfied ___satisfied ___dissatisfied
21. In your company, are most jobs and production workers covered by
a. formal job evaluations YES___ NO___
b. formal merit ratings YES___ NO___
-

Table 5

COMPANY PERSONNEL PRACTICES

Responses to Questions 13 thru 21

Company	Questions									
	13	14	15	16	17*	18	19*	20	21a	21b
1	Y	N	Y	Y	WN	Y	6	S	Y	Y
2	Y	Y	Y	Y	WN	Y	12	S	Y	Y
3	N	N	Y	Y	WN	Y	6	S	Y	Y
4	Y	N	Y	N	-	Y	6	S	Y	N
5	Y	Y	P	N	12	Y	12	D	Y	Y
6	N	Y	N	Y	-	Y	6	S	P	P
7	Not available									
8	N	Y	Civil	Service		Standards				
9	Y	N	Civil	Service		Standards				
10	N	Y	Y	Y	WN	Y	6	S	Y	Y
11	N	N	Y	Y	WN	Y	6	S	Y	Y
12	N	N	Y	Y	6	Y	6	S	Y	N
13	N	Y	N	Y	-	N	-	-	N	N

Y - Yes

N - No

P - "Partially"

* - at least every _____ months

WN - "when necessary"

VS - very satisfied

S - satisfied

D - dissatisfied

Table 6

COMPANY PERSONNEL PRACTICES

Responses to Questions 22 thru 24

Company	Questions		
	22	23	24
1	Financial	None	Considerably more
2	Supper Money*	None	The same
3	Financial	Bonus**	Considerably more
4	Financial	None	Considerably more
5	None	Bonus	Somewhat less
6	Time off	None	The same
7	Not available		
8	CIVIL SERVICE		
9	CIVIL SERVICE		
10	Financial	None	Considerably more
11	Financial	None	Considerably more
12	Financial	None	Considerably more
13	None	None	Considerably more

*Some exempt professional employees receive time and one half.

**"Only a few of these employees are covered by the Bonus Plan."

reached a specified amount (from \$435 to \$535). Only two companies paid a bonus to the employees under study. Company 3 distributed an average bonus of \$500 in 1954, noting that "only a few of these employees are covered by the Bonus Plan." Company 5 paid to these employees a 1954 bonus equal to fifteen percent of annual salary. In general, these companies believed that their non-supervisory professional employees enjoyed considerably more personal freedom on the job when compared with the non-professional employees.

, Question 25. The responses to this question on sick leave pay carried so many different qualifications that a complete presentation of the different plans would be comparable to a study of that policy alone. Therefore, only the generalized observation is offered that the participants' professional employees were authorized from 20 to 60 days sick leave at full pay after completing one year's employment.

Question 26. The responses appear in Table 7. Most companies offered some form of financial reward for obtaining patents, and none permitted retention of rights by the individual unless the company was not "interested" in the patent.

Question 27. The responses to this question appear in Table 8. In most instances retirement is a function of both age and tenure, while virtually half the companies do not require employee contributions to the pension plan.

Questions 28 and 29. The responses appear in Table 9. The mean of the responses to Question 28 indicates that these companies estimate that 13 percent of their non-supervisory professional employees' time is spent in non-engineering or semi-technical work. It is also

Table 7
 COMPANY PERSONNEL PRACTICES
 Responses to Question 26

Company	Response		Comment		b. and additional comments
	a.	c.	1*	2**	
1	Y	N	Y	Y	% net income from sales or licensing of patent rights
2	Y	N	Y	-	\$50 when submitted, \$50 when granted.
3	Y	N	Y	Y	cash payment
4	Y	Y	-	-	merit and promotional salary increases
5	N	N	-	-	---
6	N	N	-	-	---
7	Not available				
10	Y	N	Y	-	specified monetary awards on application and issuance
11	Y	N	Y	Y	royalty income dividends
12	N	N	-	-	\$30 award when filing disclosure
13	Y	N	1	-	---

*1. Bonus, depending on value to company.

**2. Rights returned to individual when company decides not to use patent.

Table 6
COMPANY PERSONNEL PRACTICES
Responses to Question 27

Company	Response				
	a	b	age only	tenure only	both age and tenure
1	Y	Y	X	-	-
2	Y	N	-	-	X
3	Y	Y	-	-	X
4	Y	Y	-	-	X
5	Y	Y	-	-	X
6	Y	N	-	-	X
7	Not available				
8*	Y	Y	-	-	X
9*	Y	Y	-	-	X
10	Y	Y	X	-	-
11	Y	N	-	-	-
12	Y	N	-	-	X
13	Y	Y	-	-	X

*Civil Service

Table 9

COMPANY PERSONNEL PRACTICES

Responses to Questions 28 and 29

Company	Questions		
	28	29a	29b
1	15	N	N
2	20	N	N
3	12	Y	Y
4	8	Y	Y
5	-	Y	N
6	-	N	N
7	N o t	a v a i l a b l e	
8	10	N	N
9	-	N	N
10	13	Y	Y
11	17	Y	Y
12	15	N	N
13	0	Y	Y

Question 28: Approximately what percentage of your "average" non-supervisory professional employee's time is spent in non-engineering or semi-technical work? _____ %

Question 29: Concerning your non-supervisory professional employees:

a. Have they ever participated in a NLRB supervised election to designate a collective bargaining representative? NO _____ YES _____ When _____

b. Do they now have an NLRB-certified collective bargaining representative? NO _____ YES _____

NON-SUPERVISORY PROFESSIONAL EMPLOYEES

WE NEED YOUR HELP

In order to make a position more satisfying, it is first necessary to identify those elements which detract from this job satisfaction. We are conducting a nation-wide study of how professional employees feel toward the various aspects of their jobs and toward their profession.

1. Do not sign. We have no need nor desire to identify you. No one from your company will see or learn your answers.
2. Your frank opinion is desired. Please don't talk over the questions with other employees--just tell what you think. Choose the answer that best describes your opinion or situation. If you prefer not to answer a particular question, omit it, but please complete and mail the form.
3. If you prefer not to complete the form, kindly staple it (with the return address exposed) and mail it so that we can send it to someone else in your representative group.

Ralph E. Balyeat

Ralph E. Balyeat
Supervisor of Industrial Relations Courses,
Industrial Engineering Department
Purdue University

.....
STAMP WILL
BE PLACED
HERE
.....

Prof R. E. Balyeat
118 Heavilon Hall
Purdue University
Lafayette, Indiana

(Staple)

NON-SUPERVISORY PROFESSIONAL EMPLOYEE SURVEY

1. Company: _____ 2. Years with company _____
3. Year of graduation _____ 4. Highest degree received _____
5. How good a job is being done in explaining to you what your company's policies are and the reason for them?
- _____ quite good _____ fairly good _____ not very good
6. I find my work:
- _____ quite dull _____ fairly interesting _____ very interesting
7. Considering my main personal work abilities, I feel my job:
- _____ uses most of them _____ uses some of them _____ fails to use them
8. The place where I do my work:
- _____ is well laid out for the work I do
_____ could be improved somewhat
_____ is poorly arranged or crowded for what I have to do
9. Do you feel your company's provisions for keeping you abreast of technical developments in your specialty are:
- _____ more than adequate _____ adequate _____ inadequate
- Comment: _____
10. Do you feel you get the right kind of training, apart from experience on the job, to help you do the best work?
- _____ I get enough training
_____ I get some training
_____ I get little or no training
11. How do you feel about this company as a place to work?
- _____ About the same as most places
_____ Better than most places
_____ Not as good as most places
12. If you were offered a position, similar to your present one, at the same pay, with another company in this area, would you accept it?
- _____ Yes _____ No _____ Undecided
13. If a friend asked you about securing a position with this company, which of the following would you be inclined to do:
- _____ I would encourage it
_____ I would discourage it
_____ I would neither encourage nor discourage it
14. Do you believe your supervisor knows whether you are doing good work or not?
- _____ Knows very little about whether my work is good or not
_____ Has some idea
_____ Has a reasonably good idea
15. Approximately what percent of your time is devoted to non-professional (non-engineering and semi-technical) work? _____ %
16. How many employees work in the same room with you? _____

NON-SUPERVISORY PROFESSIONAL EMPLOYEE SURVEY

17. Regarding the following items, do you consider your company's policy as it affects you, to be:

- | 1. very satisfactory | 2. satisfactory | 3. unsatisfactory, |
|-----------------------------------|-----------------|--------------------|
| a. Vacations..... | 1. _____ | 2. _____ 3. _____ |
| b. Overtime Compensation..... | 1. _____ | 2. _____ 3. _____ |
| c. Pension Plan..... | 1. _____ | 2. _____ 3. _____ |
| d. Sick Leave Pay..... | 1. _____ | 2. _____ 3. _____ |
| e. Job Evaluation | 1. _____ | 2. _____ 3. _____ |
| f. Merit or Performance Rating .. | 1. _____ | 2. _____ 3. _____ |
| g. Bonuses | 1. _____ | 2. _____ 3. _____ |
| h. Coffee Breaks..... | 1. _____ | 2. _____ 3. _____ |
| i. Individual Recognition..... | 1. _____ | 2. _____ 3. _____ |
| j. Job Status..... | 1. _____ | 2. _____ 3. _____ |
| k. Training..... | 1. _____ | 2. _____ 3. _____ |
| l. Promotions | 1. _____ | 2. _____ 3. _____ |

Comments: _____

18. With respect to his technical knowledge, I feel my immediate supervisor is:
 ___ extremely capable ___ good enough for the job ___ lacking in some essentials

19. With respect to his ability to get the most out of a work group, I feel my immediate supervisor is:
 ___ lacking in some essentials ___ good enough for the job ___ extremely capable

20. I consider the number of people reporting to my immediate superior to be:
 ___ too many ___ about right ___ too few

21. I feel that the company's practice in accounting for my time on the job is:
 ___ very reasonable ___ reasonable ___ unreasonable

22. During your employment, do you feel that in general, your prestige as a professional employee in this company has:
 ___ increased ___ remained essentially the same ___ decreased

23. In comparison to other companies do you feel your personal freedom on the job is:
 ___ less ___ about the same ___ greater

24. If the financial remuneration were the same, would you prefer promotions into positions requiring, primarily: ___ administrative work ___ technical work

25. What two things do you like BEST about your job?

- a. _____
 b. _____

26. What two things do you like LEAST about your job?

- a. _____
 b. _____

27. What is your present annual salary? (include any cost of living allowance.).
 ___ under \$4,000. ___ \$6-7,999. ___ \$10-11,999.
 ___ \$4-5,999. ___ \$8-9,999. ___ \$12,000. and over

28. What do you feel your basic work week should be? ___ in days ___ in hours

29. Of how many professional societies are you a member? _____

NON-SUPERVISORY PROFESSIONAL EMPLOYEE SURVEY

30. How satisfied are you with the credit you receive from your supervisor when you do a good job? ☐ completely ☐ fairly ☐ not at all
31. Do you think your supervisor tries to be fair and impartial to each employee (for example, in assigning work, granting requests, getting each to do his share, etc.)? ☐ sometimes ☐ usually ☐ always
32. How often does your supervisor discuss your job performance with you?
☐ often enough ☐ seldom or never ☐ only when something goes wrong
33. Do you feel free to approach and talk to your immediate supervisor about your promotion possibilities? ☐ always ☐ usually ☐ rarely or never
34. Do you feel that the management of your company, down to and including your immediate supervisor, delegates enough responsibility and authority to get the best results from its employees?
☐ YES ☐ NO ☐ Don't know

Comment: _____

35. Are you given a chance to offer your ideas when decisions are to be made which fall within your job responsibility?
☐ most of the time ☐ sometimes ☐ seldom or never
36. Considering my present job:
☐ I do not like it and I would prefer something else
☐ All things considered, I like it fairly well
☐ I like it very well
37. For the most part, my fellow workers in my group are:
☐ very friendly and helpful ☐ fairly friendly and helpful ☐ indifferent to me
38. Will your supervisor "go to bat" for you when he should?
☐ rarely ☐ sometimes ☐ almost always
39. What three things do you look for most in a higher level job? Number in order of importance to you: -1-2-3.
☐ a. Having more security ☐ b. Having more authority
☐ c. Being closer to the higher-ups ☐ d. Having more independence
☐ e. Having more feeling that people appreciate my work
☐ f. Having a chance to do more responsible work
☐ g. Receiving more pay
☐ h. More opportunity to apply my training and know-how
☐ i. Other (identify) _____
40. Which one of the following areas best describes your work?
☐ Design ☐ Industrial (Eng.) ☐ Production
☐ Research ☐ Development ☐ Test/Evaluation

Any additional comments _____

observed that almost half of the companies indicated that their non-supervisory professional employees had NLRB-certified collective bargaining representation.

Analysis of Employee Survey Responses

General Comments

Although originally there was no intent to "weight" the survey with a large response from one company, the great extent of no response from companies solicited made the interest in the survey expressed by a large corporation (code 3) most welcome to this investigator.

Naturally, some consideration was given to establishing a "score" for each questionnaire returned in order to simplify comparisons. However, it was felt that the salient points revealed by this study might be obscured by resorting to a quantitative summation of the responses of the individuals. Then too, this was not a study of morale per se, but rather the investigation of attitudes toward specific personnel practices and associated job conditions.

Coding and Tabulating Returns

To facilitate the tabulating of the responses, the individual questionnaire responses were coded upon receipt to permit card-punching for IBM sorting and counting. Most of the questions were coded with an obvious numerical sequence considering the order of the alternatives. Questions 1, 2, 4, 15, and 16 required establishing class intervals for responses. The responses to questions 25 and 26

were categorized as thoroughly as possible and these groupings appear in Table 11 and Table 13 respectively. (See pages 32 and 34.)

Statistical Controls

When all the Employee Survey forms tabulated herein were received, it was recognized that 57 percent of the returns were from one large corporation (Company 3). Obviously, there was the danger that the replies of employees of this one company might unduly influence the total frequency count of alternative answers to a particular question. It might then be argued that the total response reflected the attitude held by professionals in this one company, rather than the attitudes of the entire sample. Chi-square was selected as the statistic to test the hypothesis that the responses to the question were independent of employment in the large corporation (Company 3) or in the group represented by all of the other companies.

Consequently, in all of the questions under discussion, independence was first established using a value of Chi-square with two degrees of freedom and a five percent significance level. Failure to meet this test removed the question from discussion unless this qualification is explicitly stated. However, not all questions excluded from this analysis suffered this defect. Space limitations made it necessary to consider only those questions with results of particular interest or consequence. A sample Chi-square calculation appears in Appendix C.

Vital Statistics of the Sample

Figure 2 presents the vital statistics of the sample under study. It is felt that a reasonable distribution within the various categories was obtained.

The Responses

Although not every question in the survey will be discussed, the percentage of responses for each alternative offered appears in Appendix A (on the Employee Survey form), next to the alternative itself. This provides data for any desired analyses not covered in this report.

Question 6. An individual's job performance is probably strongly influenced by how interesting he finds his work. With this in mind, Question 6 was included in the Survey, and a breakdown of the "very interesting" responses appears in Figure 3. From the breakdown, it is observed that a Research worker, employed by one of these companies more than ten years and working in a room with less than ten other employees would be most likely to find his work "very interesting." Conversely, an individual working in Production or Test and Evaluation, in a room with between twenty-six and fifty or over one hundred other employees, employed by one of these companies for more than two and less than ten years, would be least likely to describe his work in this manner. These "observations" have the obvious defects of all generalizations, but they may help to transpose isolated data into a meaningful composite.

Question 7. Certainly, how one feels about the physical or

EMPLOYEE SURVEY

Number of participants by:

1. Highest degree received:

No Response	XX - 21
Bachelor's	XXXXXXXXXXXXXXXXXXXXXXXXXXXX - 399
Master's	XXXXX - 52
Doctorate	X - 10

2. Present Annual Salary:

Under \$4,000	X - 3
\$4,000 - 5,999	XXXXXXXXXXXXXXXXXXXX - 161
\$6,000 - 7,999	XXXXXXXXXXXXXXXXXXXX - 227
\$8,000 - 9,999	XXXXXXX - 74
\$10,000 - 11,999	XX - 13
\$12,000 and over	X - 1

3. Type Work:

Design	XXXXXXXXXXXXXXXX - 143
Research	XXXX - 38
Industrial Eng.	XXXX - 41
Development	XXXXXXXXXXXXXXXX - 162
Production	XXXXX - 54
Test and Evaluation	XXXXX - 48

4. Years with Company:

Less than 2	XXXXXXXX - 76
2 - less than 5	XXXXXXXXXXXXXXXX - 154
5 - less than 10	XXXXXXXXXXXX - 118
10 and over	XXXXXXXXXXXX - 134

5. Number working in the same room:

0 - 10	XXXXXXXXXXXXXXXX - 154
11 - 25	XXXXXXXX - 94
26 - 50	XXXXXX - 57
51 - 100	XXXXXXXX - 75
Over 100	XXXXXXXX - 99

Figure 2. Vital Statistics of Sample

EMPLOYEE SURVEY

This figure presents the percentage of individuals in the various sub-categories who stated that they found their work "very interesting."

<u>Categories</u>	<u>%* Responding "Very Interesting"</u>
1. Over-all Response	50 XXXXXXXXXXXXXXXXXXXXXXXX
2. Type of Work:	
Design	44 XXXXXXXXXXXXXXXXXXXXXXXX
Research	71 XX
Industrial Eng.	63 XX
Development	56 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Production	42 XXXXXXXXXXXXXXXXXXXXXXXX
Test/Evaluation	41 XXXXXXXXXXXXXXXXXXXXXXXX
3. Years with Company:	
Less than 2	52 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2 - less than 5	42 XXXXXXXXXXXXXXXXXXXXXXXX
5 - less than 10	43 XXXXXXXXXXXXXXXXXXXXXXXX
10 and over	66 XX
4. Number Working in Same Room:	
0 - 10	60 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
11 - 25	55 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
26 - 50	41 XXXXXXXXXXXXXXXXXXXXXXXX
51 - 100	48 XXXXXXXXXXXXXXXXXXXXXXXX
Over 100	42 XXXXXXXXXXXXXXXXXXXXXXXX

*Percent of those actually responding to the question.

Figure 3. Responses to Question 6

psychological aspects of his "working-space," is likely to be reflected in job performance. It was felt that the responses to this question could best be presented by examining in each category the percent of responses which said, "The place where I do my work is poorly arranged or crowded for what I have to do." From Figure 4, one is apt to conjecture that such a response is most likely to be made by a professional engaged in Test and Evaluation, employed by one of these companies for more than two and less than five years, and working in a room with more than one hundred other employees. At the other extreme, we find an employee of less than two years' tenure working with from twenty-six to fifty workers in the same room, and engaged in Industrial Engineering work. Naturally, the nature of Industrial Engineering would contribute to the existence of just this situation.

Question 10. Although the need for and value of training are ostensibly recognized, only twenty percent of the professionals surveyed felt that they received enough training. None of the sub-categories indicated what would be considered a desirable percentage of this response, but examining the data presented in Figure 5, the specifications for greatest dissatisfaction with training received would seem to be: Test and Evaluation work, tenure of more than two and less than five years, working in a room with fifty-one to one hundred employees. There seems little point in describing the individual most likely to be satisfied with the training received since none of the rates is judged to be desirable. Possibly worthy of mention is the fact that the percentage of Research workers who felt they received enough training was considerably higher than any other

EMPLOYEE SURVEY

This figure presents the percentage of individuals in the various sub-categories who described their work-places as "poorly arranged or crowded for what I have to do."

<u>Category</u>		<u>* Responding</u> <u>"Poorly Arranged or Crowded"</u>
1. Over-all Response	25	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2. Type of Work:		
Design	25	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Research	19	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Industrial Eng.	12	XXXXXXXXXXXXXXXXXXXX
Development	29	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Production	17	XXXXXXXXXXXXXXXXXXXX
Test and Evaluation	32	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
3. Years with Company:		
Less than 2	18	XXXXXXXXXXXXXXXXXXXX
2 - less than 5	28	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
5 - less than 10	25	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
10 and over	24	XXXXXXXXXXXXXXXXXXXX
4. Number Working in Same Room:		
0 - 10	22	XXXXXXXXXXXXXXXXXXXX
11 - 25	27	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
26 - 50	16	XXXXXXXXXXXXXXXXXXXX
51 - 100	26	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
over 100	30	XXXXXXXXXXXXXXXXXXXXXXXXXXXX

*Percent of those actually responding to the question.

Figure 4. Responses to Question 8

EMPLOYEE SURVEY

This figure presents the percentage of individuals in the various sub-categories who responded, "I get enough training," to the question, "Do you feel you get the right kind of training, apart from experience on the job, to help you do the best work?" (Alternative responses: "I get some training," and "I get little or no training.")

<u>Category</u>		<u>%* Responding "I get enough training"</u>
1. Over-all Response	20	XXXXXXXXXXXXXXXXXXXXX
2. Type of Work:		
Design	21	XXXXXXXXXXXXXXXXXXXXX
Research	32	XXXXXXXXXXXXXXXXXXXXX
Industrial Eng.	15	XXXXXXXXXXXXXXXXXXXXX
Development	17	XXXXXXXXXXXXXXXXXXXXX
Production	25	XXXXXXXXXXXXXXXXXXXXX
Test and Evaluation	13	XXXXXXXXXXXXXXXXXXXXX
3. Years with Company:		
Less than 2	22	XXXXXXXXXXXXXXXXXXXXX
2 - less than 5	16	XXXXXXXXXXXXXXXXXXXXX
5 - less than 10	19	XXXXXXXXXXXXXXXXXXXXX
10 and over	24	XXXXXXXXXXXXXXXXXXXXX
4. Number Working in Same Room:		
0 - 10	26	XXXXXXXXXXXXXXXXXXXXX
11 - 25	15	XXXXXXXXXXXXXXXXXXXXX
26 - 50	26	XXXXXXXXXXXXXXXXXXXXX
51 - 100	13	XXXXXXXXXXXXXXXXXXXXX
over 100	18	XXXXXXXXXXXXXXXXXXXXX

*Percent of those actually responding to the question.

Figure 5. Responses to Question 10

category under study.

Question 15. As noted in Table 10, the companies estimated that, on the average, their professional employees spent thirteen percent of their time in non-professional work. In contrast, thirty-six percent of the employees stated that between one quarter and one half of their time was spent in such work, while another twenty-five percent of them reported that non-professional work consumed between eleven and twenty-five percent of their time.

Question 17. This question considered twelve facets of company policy, and an item analysis would be impractical. It was felt that an integrated appraisal of the various parts would be amenable to presentation (the responses to each of the twelve parts are presented on the questionnaire in Appendix A). The rate at which the response "dissatisfied" appeared in all twelve parts of the question was selected as a criterion. The data are presented in Figure 6. There is a relative uniformity of response within the various categories, although professionals in Industrial Engineering or Test and Evaluation had what is judged to be a significantly higher incidence of "dissatisfied" responses.

In the responses to the individual parts of Question 17, a surprising eighty-nine percent of those responding indicated that they were "dissatisfied" with the bonus plans of their companies. The responses to the other parts of the question appear in Appendix A.

Question 25. The answers to this question concerning what two things the individual liked best about his job were categorized as

Table 10

EMPLOYEE SURVEY

Responses to Question 15

Company	Company Estimate	Employee Estimate					Total
		0-10%	11-25%	26-50%	51-70%	Over 70%	
1	15%	10	37	37	3	13	100
2	20%	25	5	60	5	5	100
3	12%	12	25	38	10	15	100
4	8%	18	30	36	12	4	100
5	--	40	--	60	--	--	100
6	--	5	10	30	10	45	100
7	--	31	31	15	8	15	100
8	10%	35	21	18	12	14	100
9	--	27	27	36	10	--	100
"Average"	13%	15	25	36	10	14	100

Question 15: Approximately what percent of your time is devoted to non-professional (non-engineering and semi-technical) work? _____ %

EMPLOYEE SURVEY

This figure presents the percentage of "dissatisfied" responses in all 12 parts of Question 17, by the sub-categories depicted.

<u>Category</u>	<u>%* Responding "Dissatisfied"</u>
1. Over-all Response	32 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2. Type work:	
Design	30 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Research	29 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Industrial Eng.	37 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Development	32 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Production	30 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Test and Evaluation	37 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
3. Years with Company:	
Less than 2	28 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2 - less than 5	33 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
5 - less than 10	29 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
10 and over	35 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
4. Number Working in Same Room:	
0 - 10	34 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
11 - 25	29 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
26 - 50	29 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
51 - 100	34 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Over 100	31 XXXXXXXXXXXXXXXXXXXXXXXXXXXX

*Percent of those actually responding to the question.

Figure 6. Integrated Analysis of Question 17

shown in Table 11. Some of the comments within a category may seem unrelated, but some classification, however arbitrary, was necessary if the results were to be presented in any quantitative form. Table 12 presents the percent response in the different categories, by individual companies, and by over-all response. Sixty percent of the responses fell into category 2, "Work." Table 11 shows the types of comments occurring in this group, and in retrospect a further classification of this category would have been more illuminating. Almost twenty-three percent of the responses refer to (personal) "Freedom," while the rest of the responses are sprinkled over the remaining categories.

Question 26. This question, requesting the two things liked least about the individual's job, was analyzed in the same manner as Question 25, and the categorizing and percentage breakdown of responses appear in Table 13 and Table 14 respectively. It is observed that thirty-one percent of the responses were assigned to the comprehensive category, "Company Policies." Twenty-two percent referred to "Work and Work Place," and many of these voiced strong discontent over noise level and ventilation. One in five responses concerned "Routine Jobs," including what was considered to be excess clerical and non-technical work. Slightly less than fifteen percent of the responses voiced dissatisfaction with "Pay and Promotion." Although only seven percent complained about their supervisors, it is felt that such attitudes can considerably reduce the productivity of an individual because of the influences inherent in the position of a supervisor.

Table 11
EMPLOYEE SURVEY
Responses to Question 25

Code	Category	Types of Comments
1.	FREEDOM	To use own judgment; to offer opinions; to follow through on work.
2.	WORK	Type work; friendly co-workers; interesting; variety; good equipment.
3.	PAY	Inadequate; none for overtime.
4.	ADVANCEMENT	Opportunities for promotional and/or technical advancement.
5.	COMPANY-ATTITUDE	Fringe benefits; prestige; regard for the job.
6.	SUPERVISORS	Interest; consideration; competence.
7.	LOCATION	Of company.
8.	SECURITY	Job offers security.

Question 25: What two things do you like BEST about your job?

Table 12
EMPLOYEE SURVEY
Percent Response to Question 25

Response Category*	Company									Total
	1	2	3	4	5	6	7	8	9	
1. FREEDOM	18	34	23	23	--	26	20	21	23	23
2. WORK	52	50	63	57	89	50	60	57	55	60
3. PAY	5	--	5	2	--	--	4	5	--	4
4. ADVANCEMENT	9	3	3	7	--	--	8	--	14	4
5. COMPANY- ATTITUDE	12	10	2	--	11	3	--	7	4	3
6. SUPERVISORS	4	3	2	7	--	3	8	--	--	3
7. LOCATION	--	--	1	3	--	3	--	3	4	1
8. SECURITY	--	--	1	1	--	15	--	7	--	2
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

*See Table 11 for category elaboration.



Table 13
EMPLOYEE SURVEY
Responses to Question 26

Code	Category	Types of Comment
1.	WORK & WORK PLACE	Noisy, crowded, drab surroundings; heavy work load; always a "rush" job.
2.	COMPANY POLICIES	Poor communications; lack of interest in and recognition of the individual; petty rules and red tape; impersonal; resistance to change; arbitrary decisions; poor coordination between departments.
3.	TRAINING	Lack of; poor provisions for keeping abreast of technical developments.
4.	SUPERVISORS	Disinterested; never comments on job performance; unqualified; always "pressing"; poor planners.
5.	PAY AND PROMOTION	Inadequate pay; unfair promotional prospects; inadequate merit ratings; no incentive.
6.	ROUTINE JOBS	Too much clerical, paper and non-technical work; routine, boring, computations.
7.	LOCATION	Of Company.
8.	UNIONIZATION	Of professionals.

Question 26: What two things do you like LEAST about your job?

Table 14

EMPLOYEE SURVEY

Percent Response to Question 26

Response Category*	Company									Total
	1	2	3	4	5	6	7	8	9	
1. WORK AND WORK PLACE	7	6	23	28	--	50	18	21	5	22
2. COMPANY POLICIES	38	32	29	39	43	10	24	33	50	31
3. TRAINING	4	3	2	3	--	--	12	4	--	3
4. SUPERVISORS	9	10	6	6	14	7	5	13	5	7
5. PAY & PROMOTION	18	36	12	12	14	23	5	15	40	15
6. ROUTINE JOBS	22	13	26	11	29	10	29	7	--	20
7. LOCATION	2	--	1	--	--	--	5	7	--	1
8. UNIONIZATION	--	--	1	1	--	--	--	--	--	1
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

*See Table 13 for category elaboration.

Question 32. Particularly in training⁹, but in other facets of a job, as well, a knowledge of results or an appraisal of performance will aid an individual to increase his proficiency and productivity. Consequently, the fact that only forty percent of the professionals surveyed felt that their supervisors discussed their job performance "often enough" indicates that there exists a considerable latent potential for increased productivity in the group consisting of the sixty percent who answered "seldom or never," or "only when something goes wrong." The breakdown of those replying "often enough" appears in Figure 7. The responses are relatively uniform, with a slightly higher degree of satisfaction expressed by Development workers, employees with between five and ten years' tenure, and those who worked with eleven to twenty-five workers in the same room.

Question 34. When asked, "Do you feel that the management of your company, down to and including your immediate supervisor, delegates enough responsibility and authority to get the best results from its employees?", an overwhelming sixty-three percent of those having a definite opinion (Yes or No) stated "No." It is recognized that professionals might be more apt to detect such a defect, but this extent of dissatisfaction was not anticipated. Obviously, the companies concerned should give serious thought to remedies for this undesirable attitude. Figure 8 presents the data of responses, and it is observed that among the professionals under study, those in Production and those employees with over ten years with the company expressed the least dissatisfaction in this area although over fifty percent of each of these groups responded "No."

EMPLOYEE SURVEY

This figure presents the percentage of individuals in the various sub-categories who responded, "often enough," to the question, "How often does your supervisor discuss your job performance with you?" (Alternatives were "seldom or never," and "only when something goes wrong.")

<u>Category</u>	<u>%* Responding "Often Enough"</u>
1. Over-all Response	40 XXXXXXXXXXXXXXXXXXXX
2. Type of Work:	
Design	39 XXXXXXXXXXXXXXXXXXXX
Research	32 XXXXXXXXXXXXXXXXXXXX
Industrial Eng.	32 XXXXXXXXXXXXXXXXXXXX
Development	49 XXXXXXXXXXXXXXXXXXXX
Production	34 XXXXXXXXXXXXXXXXXXXX
Test and Evaluation	30 XXXXXXXXXXXXXXXXXX
3. Years with Company:	
Less than 2	35 XXXXXXXXXXXXXXXXXXXX
2 - less than 5	30 XXXXXXXXXXXXXXXXXXXX
5 - less than 10	46 XXXXXXXXXXXXXXXXXXXX
10 and over	41 XXXXXXXXXXXXXXXXXXXX
4. Number Working in Same Room:	
0 - 10	38 XXXXXXXXXXXXXXXXXXXX
11 - 25	47 XXXXXXXXXXXXXXXXXXXX
26 - 50	31 XXXXXXXXXXXXXXXXXX
51 - 100	30 XXXXXXXXXXXXXXXXXXXX
Over 100	45 XXXXXXXXXXXXXXXXXXXX

*Percent of those actually responding to the question.

Figure 7. Responses to Question 32



EMPLOYEE SURVEY

This figure presents for the various sub-categories the percentage of those individuals expressing a definite opinion who responded "No" to the question, "Do you feel that the management of your company, down to and including your immediate supervisor, delegates enough responsibility and authority to get the best results from its employees?"

<u>Category</u>	<u>%* Responding "No"</u>	
1. Over-all Response	63	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2. Type of Work:		
Design	65	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Research	68	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Industrial Eng.	69	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Development	57	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Production	51	XXXXXXXXXXXXXXXXXXXX
Test and Evaluation	62	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
3. Years with Company:		
Less than 2	64	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2 - less than 5	68	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
5 - less than 10	59	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
10 and over	53	XXXXXXXXXXXXXXXXXXXX
4. Number Working in Same Room:		
0 - 10	66	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
11 - 25	49	XXXXXXXXXXXXXXXXXXXX
26 - 50	74	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
51 - 100	61	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Over 100	57	XXXXXXXXXXXXXXXXXXXX

*Percent of total responding "Yes" or "No."

Figure 8. Responses to Question 34



Question 39. Knowing what the individual is looking for in future assignments should be beneficial to both the individual and management. This survey provided participants with an opportunity to identify, in order of importance, those factors they looked for in a higher level job. Question 39 and its responses appear in Figure 9. When asked to select the most important factor sought in a higher level job, "Having a chance to do more responsible work" was chosen more than any other single factor. One-third of the respondents selected it as the most important factor. "Receiving more pay" was ranked second among the choices of "most important," and this factor was chosen most frequently both as a second and as a third most important facet of a higher level job. The results depicted in Figure 3 contain too many subtleties for concise quantitative conclusions, and different readers are likely to see significance in quite different categories. For example, this investigator sees some significance in the fact that "Having more security" received ten percent of the votes for the most important factor sought in a higher level job. Other items are likely to receive similar personal interest and emphasis.



EMPLOYEE SURVEY

Question 39. What three things do you look for most in a higher level job? Number in order of importance to you: 1, 2, 3.*

<u>Alternatives</u>	<u>% Response*</u>	
a. Having more security	10.0 6.9 10.7	1111111111 222222 333333333333
b. Having more authority	8.0 7.1 11.0	11111 222222 333333333333
c. Being closer to higher ups	0.4 0.2 1.5	1 2 33
d. Having more independence	5.6 5.7 9.0	111111 222222 3333333333
e. Having more feeling that people appreciate my work	7.2 12.2 10.7	1111111 222222222222 333333333333
f. Having a chance to do more responsible work	33.2 21.1 11.0	1111111111111111111111111111111111 222222222222222222222222 33333333333333
g. Receiving more pay	25.2 27.6 20.6	1111111111111111111111111111111111 2222222222222222222222222222222222 3333333333333333333333333333333333
h. More opportunity to apply my training and know-how	12.1 18.5 16.5	111111111111 222222222222222222222222 33333333333333333333
i. Other (identify; no agreement or consistency in those identified)	1.3 0.3 2.4	11 2 333
	100.0%	1
	100.0	2
	100.0	3

Note:

Numerals indicate relative frequency.

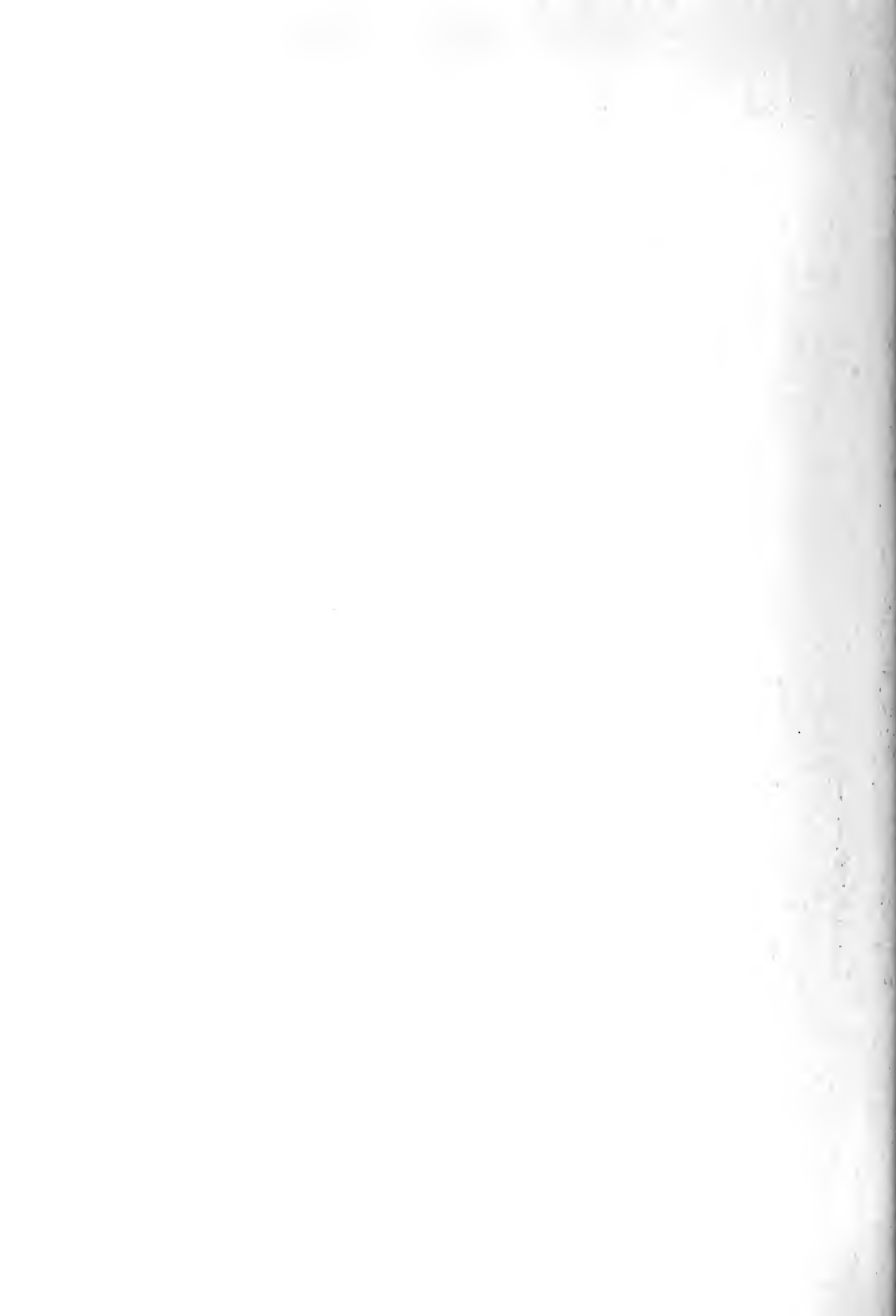
Figure 9. Responses to Question 39



Write-In Comments

Obviously, write-in comments are not restricted to the alternatives offered in a structured question, and consequently they may often reveal strong attitudes held by the participant which were not elicited by any of the alternative answers offered. However, there may exist many other individuals whose strongest attitudes have not been elicited but whose personality resists freely expressing such attitudes. Nevertheless, it is felt that obtaining unstructured comments can be of considerable value in almost every study of attitudes, although such comments do not lend themselves to a simple or quantitative analysis.

The characteristic comments obtained in this survey appear in Appendix E, grouped by company. A subjective appraisal is offered, that these comments primarily concern an attitude that the company fails to recognize the individual as a professional and in some cases as a human being. No doubt this charge could be rebutted with convincing evidence by the companies involved, but this investigator feels that the basic issue is not the verity of the charge but the fact that this attitude exists. An examination of company communications, recognizing the limitations and other characteristics of the human transmitters, relays, and receivers in such a system, may improve this condition.



SUMMARY OF RESULTS AND CONCLUSIONS

Limitations

The lack of response (from companies) greatly diminished the planned extensiveness of this study. This is emphasized in the geographical bias of the Employee Survey, since the South and Far West have no representation in it. The fear of bias due to a large response from one company was premature, since all of the questions discussed had results which were independent of employment, and Question 9 was the only one of those considered for discussion which was found to be so biased.

Some of the divisions of Company 3 had unionized professionals and some did not, and the returns did not permit positive identification. Consequently, the plan to study non-union and union influences was compromised and not attempted.

Naturally, like all voluntary participation questionnaires, the bias of non-response is present. But this is obviously an inherent limitation to such a method of investigation. The lack of positive control over the distribution of the Employee Survey forms makes the randomness of distribution probable rather than definite.

Conclusions and Summary

The findings of this study are considered to be representative of the non-supervisory professional employees within the participating companies. However, any attempt to infer that these responses are representative of non-supervisory professionals in general must



proceed with extreme caution in view of the limitations set forth above.

The Personnel-Practices of the companies participating in that phase of the study are judged to be essentially uniform, varying in degree rather than kind.

The Employee Survey revealed what is deemed to be a considerable amount of dissatisfaction with a number of management policies and practices. Over sixty percent believed that their respective managements did not delegate enough responsibility and authority for efficient operations. "Having a chance to do more responsible work" was chosen as the most important factor in a higher level job, while "receiving more pay" was the next most-mentioned factor. In selecting the most popular feature of one's present job, the work itself (including highly regarded co-workers) and personal freedom dominated the selections. Company policies, poor working conditions and routine (non-professional) jobs dominated the listing of the least liked facets of one's present job. Only one in five of the professionals surveyed felt that he received enough training, and three out of five felt their supervisors did not comment on job performance often enough. With respect to the percent of time devoted to non-professional work, the estimates given by the companies are consistently and considerably lower than the estimates made by the individual employees.

Recognizing the educational level of those responding, it is felt that the complaints they make cannot be dispatched or ignored as the normal amount of complaining done by the human who works for a living. It is hoped that this study will contribute to the major



effort that must be made to detect accurately the bases for these attitudes which represent a loss in productivity of technical professionals.

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APPENDIX A

QUESTIONNAIRES

To Be Completed By Participating Companies

NOTE: 1. IF A SPECIFIC QUESTION DOES NOT APPLY TO YOUR SITUATION, OR IS INCONVENIENT TO ANSWER, OMIT IT BUT KINDLY COMPLETE THE REMAINING QUESTIONS AND RETURN THE FORM.

2. UNLESS EXPLICITLY STATED OTHERWISE, ALL QUESTIONS CONCERN NON-SUPERVISORY PROFESSIONAL PERSONNEL (i.e., engineers, scientists, and others possessing at least a bachelor's degree in a technical field).

1. Approximate total number of employees (all classifications) Dec. 31, 1954 _____
2. Approximate number of non-supervisory professional employees Dec. 31, 1954 _____
3. Resignation rate for entire company; 1953: _____ per _____ employees
1954: _____ per _____ employees
4. Resignation rate for non-supervisory professional employees;
1953: _____ per _____ employees
1954: _____ per _____ employees
5. What is the average base starting rate you pay graduates with (technical) bachelor's degrees but without compensable experience? (Include any Cost of Living allowance., _____ per _____)
6. What is the basic work week for non-supervisory professional employees?
in days _____ in hours _____
7. What is your paid-vacation policy for non-supervisory professional employees?
Years With Company: 0-1 1-2 2-5 6-10 10-15 15 & over
No. of Weeks : _____ : _____ : _____ : _____ : _____ : _____
8. How many paid-holidays do these employees receive each year? _____ days
9. Do you have a professional development program within your company which provides these non-supervisory professional employees with pertinent information concerning technical developments within their specialties? YES _____ NO _____
Comment: _____
0. a. Do you participate with a university in a study program which enables these employees to obtain advanced degrees? YES _____ NO _____
b. If YES, does your company pay or refund any tuition costs? YES _____ NO _____
Comment: _____
1. What is the approximate number of non-supervisory professional employees who report to one supervisor? _____ Minimum _____ Average _____ Maximum _____
2. For non-supervisory professional employees to be most efficient, how many, in general, should work in the same room. (Approximate) Optimum number _____
(Approximate) Maximum number _____
3. Are daily times when non-supervisory professional employees report at and depart from the plant formally recorded? YES _____ NO _____

14. a. Are coffee breaks for these employees customary? YES _____ NO _____
 b. If YES, are they allowed: _____ once/day _____ for 10 minutes _____ unrestricted
 _____ twice/day _____ for 20 minutes _____
15. Are your non-supervisory professional employees' jobs covered by formal job evaluation plans? YES _____ NO _____
16. Are there established max/min salary ranges for each classification? YES _____ NO _____
17. Are reviews of these job evaluations scheduled for at least every:
 _____ 6 months _____ 12 months _____ 18 months _____ when necessary
18. Are these non-supervisory professional employees covered by a formal individual merit or performance rating system? YES _____ NO _____
19. Are reviews of these ratings scheduled for at least every:
 _____ 6 months _____ 12 months _____ 18 months _____ when necessary
20. How do you think your non-supervisory professional employees feel about your job evaluation and merit rating systems?
 _____ very satisfied _____ satisfied _____ dissatisfied
21. In your company, are most jobs and production workers covered by:
 a. formal job evaluations YES _____ NO _____
 b. formal merit ratings YES _____ NO _____

Comments for 15 thru 21: _____

22. How are your exempt non-supervisory professional employees compensated for overtime?
 Financial _____ Basis _____
 Time off _____ Basis _____
 Supper Money Only _____ Basis _____
 No Compensation _____ Basis _____
 Other Means _____ Basis _____

Comment: _____

23. Are your exempt non-supervisory professional employees eligible to participate in any: a. BONUS PLAN _____ PROFIT SHARING _____ OTHER _____
 b. Manner of Compensation _____
 c. Approximate average supplemental income from these plans received by these employees in 1954: _____

Comment: _____

24. Compared with your non-professional employees, how much personal freedom on the job do your non-supervisory professional employees enjoy?
 _____ considerably more _____ the same _____ somewhat less

25. What provisions do you have for sick leave pay for non-supervisory professional employees?

Tenure _____

Length of leave (with pay) _____

Rate of pay _____

Comment: _____

26. a. Are financial incentives provided for developments by these individuals which result in the obtaining of patents by the company? YES _____ NO _____

b. If YES, type of incentive or compensation _____

c. Does the individual retain any patent rights? YES _____ NO _____

Comment: _____

27. a. Are these non-supervisory professional employees eligible for participation in a pension plan? YES _____ NO _____

b. Do they contribute to this plan? YES _____ NO _____

c. Is retirement under this plan a function of: _____ age only
 _____ tenure only
 _____ both age and tenure

Comment: _____

28. Approximately what percentage of your "average" non-supervisory professional employee's time is spent in non-engineering or semi-technical work? _____ %

Comment: _____

29. Concerning your non-supervisory professional employees:

a. Have they ever participated in a NLRB supervised election to designate a collective bargaining representative? NO _____ YES _____, WHEN _____

b. Do they now have an NLRB-certified collective bargaining representative? NO _____ YES _____

Comment: _____

ANY ADDITIONAL COMMENTS: _____

MAIL FUTURE CORRESPONDENCE TO: _____

COMPANY: _____

ADDRESS: _____

NON-SUPERVISORY PROFESSIONAL EMPLOYEES

WE NEED YOUR HELP

In order to make a position more satisfying, it is first necessary to identify those elements which detract from this job satisfaction. We are conducting a nation-wide study of how professional employees feel toward the various aspects of their jobs and toward their professions.

1. Do not sign. We have no need nor desire to identify you. No one from your company will see or learn your answers. fold
.....
2. Your frank opinion is desired. Please don't talk over the questions with other employees--just tell what you think. Choose the answer that best describes your opinion or situation. If you prefer not to answer a particular question, omit it, but please complete and mail the form.
3. If you prefer not to complete the form, kindly staple it (with the return address exposed) and mail it so that we can send it to someone else in your representative group.

Ralph E. Balyeat
Supervisor of Industrial Relations Courses,
Industrial Engineering Department
Purdue University

fold
.....

.....
[STAMP WILL
BE PLACED
HERE
.....]

Professor Ralph E. Balyeat
Supervisor of Industrial Relations Courses
Industrial Engineering Department
Purdue University
Lafayette, Indiana

NON-SUPERVISORY PROFESSIONAL EMPLOYEE SURVEY

1. Company: _____ 2. Years with company Figure 2
3. Year of graduation _____ 4. Highest degree received Figure 2
5. How good a job is being done in explaining to you what your company's policies are and the reason for them?
17% quite good 47% fairly good 10% not very good
6. I find my work:
2% quite dull 47% fairly interesting 51% very interesting
7. Considering my main personal work abilities, I feel my job:
37% uses most of them 50% uses some of them 3% fails to use them
8. The place where I do my work:
23% is well laid out for the work I do
52% could be improved somewhat
25% is poorly arranged or crowded for what I have to do
9. Do you feel your company's provisions for keeping you abreast of technical developments in your specialty are:
11% more than adequate 56% adequate 33% inadequate
 Comment: _____
10. Do you feel you get the right kind of training, apart from experience on the job, to help you do the best work?
20% I get enough training
43% I get some training
37% I get little or no training
11. How do you feel about this company as a place to work?
37% About the same as most places
60% Better than most places
3% Not as good as most places
12. If you were offered a position, similar to your present one, at the same pay, with another company in this area, would you accept it?
6% Yes 74% No 20% undecided
13. If a friend asked you about securing a position with this company, which of the following would you be inclined to do:
51% I would encourage it
7% I would discourage it
42% I would neither encourage nor discourage it
14. Do you believe your supervisor knows whether you are doing good work or not?
7% Knows very little about whether my work is good or not
26% Has some idea
67% Has a reasonably good idea
15. Approximately what percent of your time is devoted to non-professional (non-engineering and semi-technical) work? Table 10 %

16. How many employees work in the same room with you? Figure 2

17. Regarding the following items, do you consider your company's policy as it affects you, to be:

1. very satisfactory 2. satisfactory 3. unsatisfactory, concerning:

a. Vacations	1. <u>38</u>	2. <u>50</u>	3. <u>12</u>
b. Overtime Compensation	1. <u>20</u>	2. <u>52</u>	3. <u>28</u>
c. Pension Plan	1. <u>23</u>	2. <u>59</u>	3. <u>18</u>
d. Sick Leave Pay	1. <u>49</u>	2. <u>42</u>	3. <u>9</u>
e. Job Evaluation	1. <u>7</u>	2. <u>58</u>	3. <u>35</u>
f. Merit or Performance Rating ...	1. <u>9</u>	2. <u>53</u>	3. <u>38</u>
g. Bonuses	1. <u>2</u>	2. <u>9</u>	3. <u>89</u>
h. Coffee Breaks	1. <u>24</u>	2. <u>36</u>	3. <u>40</u>
i. Individual Recognition	1. <u>11</u>	2. <u>58</u>	3. <u>31</u>
j. Job Status	1. <u>11</u>	2. <u>67</u>	3. <u>22</u>
k. Training	1. <u>6</u>	2. <u>53</u>	3. <u>41</u>
l. Promotions	1. <u>7</u>	2. <u>58</u>	3. <u>35</u>

Comments: _____

18. With respect to his technical knowledge, I feel my immediate supervisor is 47% extremely capable 50% good enough for the job 21% lacking in some essentials.

19. With respect to his ability to get the most out of a work group, I feel my immediate supervisor is: 32% lacking in some essentials 39% good enough for the job 29% extremely capable.

20. I consider the number of people reporting to my immediate superior to be: 18% too many 74% about right 8% too few

21. I feel that the company's practice in accounting for my time on the job is: 30% very reasonable 40% reasonable 3% unreasonable

22. During your employment, do you feel that in general, your prestige as a professional employee in this company has: 49% increased 41% remained essentially the same 10% decreased

23. In comparison to other companies do you feel your personal freedom on the job is: 9% less 46% about the same 45% greater

24. If the financial remuneration were the same, would you prefer promotions into positions requiring, primarily: 43% administrative work 58% technical work

25. What two things do you like BEST about your job?

a. See Table 12

b. _____

26. What two things do you like LEAST about your job?

a. See Table 14

b. _____

27. What is your present annual salary? (Include any cost of living allowance.)

<u>34%</u> under \$4,000.	<u>18%</u> \$4-\$4,999.	<u>1%</u> \$10-\$11,999
<u>47%</u> \$4-\$5,999.	<u>3%</u> \$5-\$9,999	<u>-</u> \$12,000 and over

28. What do you feel your basic work week should be? 5 in days 40 in hours
29. Of how many professional societies are you a member? 0-32%; 1-42%; 2-20%; 3-6%
30. How satisfied are you with the credit you receive from your supervisor when you do a good job? 31% completely 52% fairly 17% not at all
31. Do you think your supervisor tries to be fair and impartial to each employee (for example, in assigning work, granting requests, getting each to do his share, etc.)? 15% sometimes 44% usually 37% always
32. How often does your supervisor discuss your job performance with you? 40% often enough 46% seldom or never 14% only when something goes wrong
33. Do you feel free to approach and talk to your immediate supervisor about your promotion possibilities? 43% always 38% usually 19% rarely or never
34. Do you feel that the management of your company, down to and including your immediate supervisor, delegates enough responsibility and authority to get the best results from its employees? 31% YES 51% NO 18% Don't Know
Comment: _____
35. Are you given a chance to offer your ideas when decisions are to be made which fall within your job responsibility?
62% most of the time 32% sometimes 6% seldom or never
36. Considering my present job:
9% I do not like it and I would prefer something else
59% All things considered, I like it fairly well
32% I like it very well
37. For the most part, my fellow workers in my group are: 86% very friendly and helpful 12% fairly friendly and helpful 2% indifferent to me
38. Will your supervisor "go to bat" for you when he should?
9% rarely 27% sometimes 64% almost always
39. What three things do you look for most in a higher level job? Number in order of importance to you: -1-2-3. See Figure 9
 a. Having more security b. Having more authority
 c. Being closer to the higher-ups d. Having more independence
 e. Having more feeling that people appreciate my work
 f. Having a chance to do more responsible work
 g. Receiving more pay
 h. More opportunity to apply my training and know-how
 i. Other (identify) _____
40. Which one of the following areas best describes your work?
30% Design 8% Industrial (Enr.) 11% Production
8% Research 33% Development 10% Test/Evaluation

Any additional comments _____

APPENDIX B

WRITE-IN COMMENTS

COMPANY 1

- Question 9 No attempt is made to inform one of new literature of interest nor time provided for personal investigation.
- All information received is through personal investigation.
- Question 17 Would like to see the company have a better policy of informing the employees just what is going on. Sometimes there seems to be lack of coordination between groups.
- The problem of individual recognition is perhaps the most important. A strict "chain of command system" is used where each level presents a good idea as its own.
- Question 34 It seems responsibility is delegated but no authority to go with it.
- Sometimes feel the apparent lack of cooperation between groups, etc., at times, hinders the best results from employees.
- "Additional" Company leans over backward to hire outside personnel and loses many good engineers with 2 to 10 years service thru lack of poor salary promotion plan.
- It should be obvious that I rate my immediate supervisor quite high, but I have no confidence in the various levels of supervision above him in regard to their intelligence (in some cases), decisiveness or drive.
- I am firmly convinced that the assignment of only professional level engineering work to engineers would greatly alleviate the present so-called shortage, raise the individual worth, and subsequently, increase the individual remunerative compensation of engineers.
- I feel that too many technically unqualified men (although having experience) are advanced to technical supervisory capacities, and maintain their positions by hiding behind the complexities of the problems rather than directing the way to solutions.

COMPANY 2

Question 17 This company has the knack of losing track of its people except when something goes wrong.

Most of the 3's above are a result of poor training programs for the future good of the company.

Promotions and pay (merit and base increases) are not in accordance with education and merits.

Question 34 Too much faith in Edisonian ideas from brass.

This coupled with poor training program causes a great deal of dissatisfaction.

Insufficient delegation of authority.

General feeling of passing the buck when new problems arise--afraid to take on unauthorized responsibility by lower echelons.

Usually the man on the job is not found at the conference table where policy and other decisions regarding the work are made.

"Additional" The company is not progressive enough.

I would consider this company above average in fringe benefits as a result of a strong union among hourly personnel. In all other respects the company is operating 100 years in the past as regards administration, job training, etc.

Our management, however, seems able to make decisions only when someone outside the organization concurs in overall conclusions. They do not appear to be willing to "dig" to evaluate for themselves the worth of a research finding.

COMPANY 3-C (A Division of Company 3)

- Question 9 You must search out your own information.
- They do not give you time to keep up with technical information.
- Little of this provided. We must dig it out on our own.
- Provisions made for wrong people.
- Only told things when they have to tell me.
- Little or nothing is done unless encouragement of graduate work is considered part of this.
- Question 17 Job evaluation and merit rating methods unknown--only results known.
- Summing it all, the company does the best they can do.
- Promotions usually unfair.
- On "g" some form of profit-sharing would be good incentive. No policy on Coffee breaks; some take them, some don't. Should be some policy.
- A great deal due to an unsatisfactory union--hard to "know" the boss because union "between" us.
- Too much emphasis is placed on seniority when promotions are made.
- Should not be necessary to ask supervisor for raise. Raises should be automatic if justified by performance and show of initiative.
- Ability to do your work well plus ability to get along well with others apparently goes unrewarded here.
- Question 21 "ridiculous"
- Question 26 Pressure from high management to join social and external associations.
- Company has let Engineers drift into a labor union, and apparently is satisfied with this situation.



High level management does not always back up talk about professionalism for Engineers, with action.

Low prestige of Department.

Employees are superficially friendly but basically hostile.

The engineer is the final goat for any problem that doesn't fall within the system, whether it is his province or not.

Question 32 only once a year when required to do so.

Question 33 but it doesn't do any good--it stops right there.

Question 34 Individuals have responsibility but not authority.

Many supervisors do not delegate authority.

Responsibilities and authority are not too well defined.

No logical system of delegating responsibility to non-supervisory personnel.

My boss' Boss runs the show and my immediate boss is overruled too much, etc.

Non Engineer supervises Engineering group.

Too many things are done by decree.

Usually, the second level of supervision holds back unnecessarily.

"Additional" In a company the size of -----, it's very easy for a person to be pigeon-holed on a job. His real value may never become known if he is not the aggressive type.

My biggest gripe is too many chiefs, not enough indians. Like many large companies we have so much incompetent brass and too few high caliber working engineers.

Employee should be approached and asked if he would like a specific promotion not just announce it. Conversely, if employee does not get a promotion he is in line for, he should be told why.

Present management is deteriorating. Engineering employees are losing confidence in, and respect for, top management.

I cannot see how 90% of Engineers can be considered "Professionals" when our salaries--consequently our standard of living--are a small step above salaries or wages of persons with no formal training.

Present policy of restricting promotion to supervisory positions to young men is discouraging to older men. All non-supervisory engineers are titled "Design Engineers." Some other designation at higher levels would help in dealing with outsiders.

Why was the union and non-union question not put in this questionnaire? That type data could be a real help to management as well as the worker.

Don't under-rate 38 above, the man over my immediate boss won't delegate authority to my boss and does not hesitate to criticize him in front of workers. My boss is relegated to a weak position of little respect and can't go to bat for us.

This is a large corporation with very good General Policies but technical people are not given proper consideration in the factory organization.

I believe the company treats professional employees fairly well.

I hope that professionalism comes to Engineering soon. I know Doctors (M.D.) just out of school that get \$25 per month plus room and board, but appear quite happy with their lot due to the professional status they enjoy.

COMPANY 3-1 (A Division of Company 3)

- Question 9 This Division supports Technical Societies (IFS, AIEE) but does not encourage engineers' participation.
- Question 17 I feel I should be asked what my personal goals are, and advised how they fit in with company opportunities and plans.
- Generally, Company policy on pay and merit rating is kept too secret.
- Individual recognition based on prejudiced management opinions.
- Personally feel employee who expects pay for overtime has no right to call himself "professional."
- Question 26 Petty, underhanded methods used by some older co-workers, to discredit and embarrass.
- Having rigorous starting and quitting hours.
- Company policy of "no unions among engineers."
- Question 30 There seems to be a fear that if you compliment an engineer he will immediately ask for more pay: Therefore NO PRAISE.
- Question 34 Production comes ahead of all things.
- In policy - yes. In practice - not always.
- For a group of people (engineers) who control company quality and future position, we have very little plant-wide authority.
- "Additional" Regarding 26b, merit ratings are satisfactory, but not followed by increases most of time.
- This questionnaire is invaluable if it helps management determine how best to handle professional employees.



I feel that there is little opportunity for advancement; that the work does not utilize my capabilities; that after a few years when you are stuck on the job there will be even less pay than now. At the present rate I expect to leave soon--unless this survey helps to improve conditions.

I worked in ----- department for two years, did my best but could not hit it off with my supervisor. I feel more useful in my present job. Happy when wanted.

In this organization a college degree is not required for the title of Engineer. Indeed, the majority of Engineers - Section Engineers - & Engineering Supervisors, etc., do not have a degree of any kind. Hence contributing to lack of professionalism.

Poor choice of Supervisor often leads to preferential treatment in favor of his specialty and lack of understanding of others' problems.

I find there is a lack of "hustle" among engineers because of lack of incentive (mainly money and authority).

I think more regard for the employee as a man instead of a commodity would increase productivity tremendously.

We could work all night but if we report 3 minutes late eyebrows are raised and frowns appear.

We have 1 coke machine for 5000 employees.

Our departmental pay level is kept well below that of other departments doing roughly equivalent (but different) work.

Supervisors "knock" additional education for higher degrees; company's policy is all for additional education.

COMPANY 4

Question 15 This is main Gripe. (Percentage of non-professional work)

Question 17 This company does very little for its engineers unless forced to, as a result of an Engineers' Union.

Question 26 Management's refusal to supply extra conveniences for workers in immediate area.

Question 34 Work with "Group Leader" system - poor group leader ruins it.

There is a huge disparity between the theory of organization (as shown on our organization charts) and the actual realities of organization.

Engineers' decisions are not absolute in many cases where they should be.

"Additional" My immediate supervisor is excellent. It is company policy toward Engineers over which he has no control which dissatisfies me mostly.

Like work and Company and pay. Dislike clerical details, lack of advancement chances and over-organization.

Some higher supervisors too aloof and overbearing. Employees in certain service depts., too independent and uncooperative. Inadequate setup for making laboratory and test equipment available as needed.

Upper level engineers' salaries are crowded too close to starting salaries.

I realize the futility of continuing in the engineering field and am currently attending school to enter another profession.

Promotions seem to be made purely on technical ability - thus, supervisory personnel have little administrative ability.

COMPANY 5

- Question 9 They have no interest in professional societies, meetings, engineering licenses, etc.
- Question 17 Sick leave pay policy is secret, and presumably variable according to person involved.
- "Additional" Sales and Manufacturing Departments have Vice-President as heads. Personnel has thinly disguised distaste for young engineers. It all adds up to a poor set-up technically and morale-wise for engineers since the department has no "rank" with which to defend itself.

COMPANY 6

- Question 9 There is no effort by the company to insure that the engineer "learns" more than he "forgets."
- Question 17 I know nothing about Job Evaluation, Merit Rating, or Individual Recognition policy. It seems to be policy that this information is not for employees.
- Company spends greatest effort in promoting job security.
- Supervisor never comments on (my) work.
- Question 34 Delegates responsibility but won't accept decisions.
- I believe this to be the most serious fault.
- "Additional" 75% of work is routine that could be handled by a non-professional. However, policy is to hire only professional employees for these jobs, and each has most of his time consumed by work not commensurate with his ability.

COMPANY 7

- Question 9 The average (type) company has little or no conception of or appreciation for engineering.
- Question 17 Except for pay scale, I feel the company's policy toward its employees is very good.
- Question 26 Having to yield to relations of the top brass.

COMPANY 8

- Question 34 There is a complete feeling of hand feeding by "shaky" hands.
- Too many "empire" builders.
- Too much "passing the buck" and not enough "sticking your neck out."
- Practically every problem is carried to the next-to-the-top.
- "Additional" I consider this job only as a means to enter the teaching profession. It is a satisfactory job, but would never do as a career.
- Initiative nil; if it hasn't been done before, it probably won't be done.

COMPANY 9

- "Additional" Management must face up to the responsibility of accepting engineers as professional employees, and treating and paying them accordingly, or be confronted with unions which we definitely don't want but which might appear from necessity.



APPENDIX C

CHI-SQUARE

SAMPLE CALCULATION

CHI-SQUARE SAMPLE CALCULATION

Question 10. Do you feel you get the right kind of training apart from experience on the job, to help you do the best work?

Responses: 1. I get enough training
 2. I get some training
 3. I get little or no training

Frequency Response:

RESPONSES

	1 F_{ij}/f_{ij}	2 F_{ij}/f_{ij}	3 F_{ij}/f_{ij}	Totals
Company 3	$51/(53)$	$117/(115)$	$101/(100)$	269
All others	$42/(40)$	$83/(85)$	$74/(75)$	199
Totals	93	200	175	468

$$\begin{aligned}
 \chi^2 &= \sum_{ij} \frac{(F_{ij} - f_{ij})^2}{f_{ij}} \\
 &= \frac{(51-53)^2}{53} + \frac{(42-40)^2}{40} + \frac{(117-115)^2}{115} \\
 &\quad + \frac{(83-85)^2}{85} + \frac{(101-100)^2}{100} + \frac{(74-75)^2}{75} \\
 &= 0.23 \quad \chi^2_{(.95, 2df)} = 5.99
 \end{aligned}$$

Therefore, at the 5% significance level there is insufficient evidence to reject the hypothesis that the responses to this question are independent of employment in Company 3 or the group representing all other participating companies.

F_{ij} = actual frequencies

f_{ij} = theoretical frequencies



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